Page 1 of 7

OIPE

RAW SEQUENCE LISTING DATE: 10/10/2001 PATENT APPLICATION: US/09/819,094 TIME: 10:12:44 Input Set : A:\UCSF-018-02US.txt Output Set: N:\CRF3\10102001\1819094.raw 3 <110> APPLICANT: Weiner, Richard I. Martial, Joseph A. Struman, Ingrid Taylor, Robert Bentzien, Frauke <120> TITLE OF INVENTION: Novel Antiangiogenic Peptide Agents and Their Therapeutic and Diagnostic Use 12 <130> FILE REFERENCE: UCSF-018/02US 14 <140> CURRENT APPLICATION NUMBER: 09/819,094 15 <141> CURRENT FILING DATE: 2001-03-27 ENTERED 17 <150> PRIOR APPLICATION NUMBER: 09/076,675 18 <151> PRIOR FILING DATE: 1998-05-12 20 <150> PRIOR APPLICATION NUMBER: 60/046,394 21 <151> PRIOR FILING DATE: 1997-05-12 23 <160> NUMBER OF SEQ ID NOS: 34 25 <210> SEQ ID NO: 1 26 <211> LENGTH: 603 27 <212> TYPE: DNA 28 <213> ORGANISM: Homo sapiens 30 <400> SEQUENCE: 1

33 ttcgataaac ggtataccca tggccggggg ttcattacca aggccatcaa cagctgccac 180 34 acttettece ttgccacece egaagacaag gagcaagece aacagatgaa tcaaaaagae 240 35 tttctgagcc tgatagtcag catattgcga tcctggaatg agcctctgta tcatctggtc 300 36 acggaagtac gtggtatgca agaagccccg gaggctatcc tatccaaaqc tgtagagatt 360 37 gaggagcaaa ccaaacggct tctagagggc atggagctga tagtcagcca ggttcatcct 420 38 gaaaccaaag aaaatgagat ctaccctgtc tggtcgggac ttccatccct gcagatggct 480 39 gatgaagaat ctcgcctttc tgcttattat aacctgctcc actgcctacg caggcattca 540 40 cataaaatcg acaattatct caagctcctg aagtgccgaa tcatccacaa caacaactgc 600 41 taa 43 <210> SEQ ID NO: 2 44 <211> LENGTH: 375 45 <212> TYPE: DNA

31 atgttgccca tctgtcccgg cggggctgcc cgatgccagg tgaccettcg agacctgttt 60 32 gaccgcgccg tcgtcctgtc ccactacatc cataacctct cctcagaaat gttcagcgaa 120

46 <213> ORGANISM: Homo sapiens 48 <400> SEQUENCE: 2

49 atgttgccca tctgtcccgg cggggctgcc cgatgccagg tgacccttcg agacctgttt 60 50 gaccgegeeg tegteetgte ecaetacate cataacetet eeteagaaat gtteagegaa 120 51 ttegataaae ggtataeeea tggeeggggg tteattaeea aggeeateaa eageteeeae 180 52 acttettece ttgecacece egaagacaag gagcaagece aacagatgaa teaaaaagae 240 53 tttctgagcc tgatagtcag catattgcga tcctggaatg agcctctgta tcatctggtc 300 54 acggaagtac gtggtatgca agaagccccg gaggctatcc tatccaaagc tgtagagatt 360

55 gaggagcaaa cctaa 57 <210> SEQ ID NO: 3

58 <211> LENGTH: 423 59 <212> TYPE: DNA

5

6 7

9

10

60 <213> ORGANISM: Homo sapiens

RAW SEQUENCE LISTING DATE: 10/10/2001 PATENT APPLICATION: US/09/819,094 TIME: 10:12:44

Input Set : A:\UCSF-018-02US.txt

Output Set: N:\CRF3\10102001\1819094.raw

62 <400> SEQUENCE: 3 63 atgttgccca tctgtcccgg cggggctgcc cgatgccagg tgacccttcg agacctgttt 60 64 gaccgcgccg tcgtcctgtc ccactacatc cataacctct cctcagaaat gttcagcgaa 120 65 ttcgataaac ggtataccca tggccggggg ttcattacca aggccatcaa cagctcccac 180 66 acttettece ttgccaeece egaagacaag gagcaageee aacagatgaa teaaaaagae 240 67 tttctgagcc tgatagtcag catattgcga tcctggaatg agcctctgta tcatctggtc 300 68 acggaagtac gtggtatgca agaagccccg gaggctatcc tatccaaagc tgtagagatt 360 69 gaggagcaaa ccaaacgget tetagaggge atggagetga tagtcageca ggttcateet 420 70 tga 72 <210> SEQ ID NO: 4 73 <211> LENGTH: 603 74 <212> TYPE: DNA 75 <213> ORGANISM: Homo sapiens 77 <400> SEQUENCE: 4 78 atgttgccca tetgteeegg eggggetgee egatgeeagg tgaeeetteg agaeetgttt 60 79 gaccgcgccg tcgtcctgtc ccactacatc cataacctct cctcagaaat gttcagcgaa 120 80 ttcgataaac ggtataccca tggccggggg ttcattacca aggccatcaa cagctcccac 180 81 acttettece ttgccaccc cgaagacaag gagcaagece aacagatgaa tcaaaaagac 240 82 tttctgagcc tgatagtcag catattgcga tcctggaatg agcctctgta tcatctggtc 300 83 acggaagtac gtggtatgca agaagccccg gaggctatcc tatccaaagc tgtagagatt 360 84 gaggagcaaa ccaaacggct tctagagggc atggagctga tagtcagcca ggttcatcct 420 85 agacccccaa cacctgagat ctaccctgtc tggtcgggac ttccatccct gcagatggct 480 86 gatgaagagt ctcgcctttc tgcttattat aacctgctcc actgcctacg cagggattca 540 87 cataaaatcg acaattatct caagetcctg aagtgccgaa tcatccacaa caacaactgc 600 88 taa 90 <210> SEQ ID NO: 5 91 <211> LENGTH: 603 92 <212> TYPE: DNA 93 <213> ORGANISM: Homo sapiens 95 <400> SEQUENCE: 5 96 tacaacgggt agacagggcc gccccgacgg gctacggtcc actgggaagc tctggacaaa 60 97 ctggcgcggc agcaggacag ggtgatgtag gtattggaga ggagtcttta caagtcgctt 120 98 aagetatttg ccatatgggt accggcccc aagtaatggt tccggtagtt gtcgacggtg 180 99 tgaagaaggg aacggtgggg gcttctgttc ctcgttcggg ttgtctactt agtttttctg 240 100 aaagactcgg actatcagtc gtataacgct aggaccttac tcggagacat agtagaccag 300 101 tgccttcatg caccatacgt tcttcggggc ctccgatagg ataggtttcg acatctctaa 360 102 ctcctcqttt qqtttqccqa aqatctcccq tacctcqact atcaqtcqqt ccaaqtaqqa 420 103 ctttggtttc ttttactcta gatgggacag accagccctg aaggtaggga cgtctaccga 480 104 ctacttctca gagcggaaag acgaataata ttggacgagg tgacggatgc gtccctaagt 540 105 gtattttagc tgttaataga gttcgaggac ttcacggctt agtaggtgtt gttgttgacg 600 106 att 603 108 <210> SEQ ID NO: 6 109 <211> LENGTH: 375 110 <212> TYPE: DNA 111 <213> ORGANISM: Homo sapiens 113 <400> SEQUENCE: 6 114 tacaacgggt agacagggcc gccccgacgg gctacggtcc actgggaagc tctggacaaa 60 115 ctggcgcggc agcaggacag ggtgatgtag gtattggaga ggagtcttta caagtcgctt 120 116 aagetatttg ccatatgggt accggcccc aagtaatggt tccggtagtt gtcgacggtg 180

RAW SEQUENCE LISTING DATE: 10/10/2001 PATENT APPLICATION: US/09/819,094 TIME: 10:12:44

Input Set : A:\UCSF-018-02US.txt

Output Set: N:\CRF3\10102001\I819094.raw

117 tqaaqaaqqq aacqqtqqqq qcttctqttc ctcqttcqqq ttqtctactt aqtttttctq 240 118 aaagactcgg actatcagtc gtataacgct aggaccttac tcggagacat agtagaccag 300 119 tgccttcatg caccatacgt tcttcggggc ctccgatagg ataggtttcg acatctctaa 360 120 ctcctcqttt qqatt 122 <210> SEQ ID NO: 7 123 <211> LENGTH: 423 124 <212> TYPE: DNA 125 <213> ORGANISM: Homo sapiens 127 <400> SEQUENCE: 7 128 tacaacgggt agacagggcc gccccgacgg gctacggtcc actgggaagc tctggacaaa 60 129 ctggcgcggc agcaggacag ggtgatgtag gtattggaga ggagtcttta caagtcgctt 120 130 aagctatttg ccatatgggt accggcccc aagtaatggt tccggtagtt gtcgacggtg 180 131 tgaagaaggg aacggtgggg gcttctgttc ctcgttcggg ttgtctactt agtttttctg 240 132 aaagactegg actateagte gtataaeget aggaeettae teggagaeat agtagaeeag 300 133 tgccttcatg caccatacgt tcttcggggc ctccgatagg ataggtttcg acatctctaa 360 134 ctcctcgttt ggtttgccga agatctcccg tacctcgact atcagtcggt ccaagtagga 420 135 act 423 137 <210> SEQ ID NO: 8 138 <211> LENGTH: 603 139 <212> TYPE: DNA 140 <213> ORGANISM: Homo sapiens 142 <400> SEQUENCE: 8 143 tacaacgggt agacagggcc gccccgacgg gctacggtcc actgggaagc tctggacaaa 60 144 ctggcgcggc agcaggacag ggtgatgtag gtattggaga ggagtcttta caagtcgctt 120 145 aagctatttg ccatatgggt accggcccc aagtaatggt tccggtagtt gtcgacggtg 180 146 tgaagaaggg aacggtgggg gettetgtte etegtteggg ttgtetaett agtttttetg 240 147 aaagactcgg actatcagtc gtataacgct aggaccttac tcggagacat agtagaccag 300 148 tgccttcatg caccatacgt tcttcggggc ctccgatagg ataggtttcg acatctctaa 360 149 ctcctcgttt ggtttgccga agatctcccg tacctcgact atcagtcggt ccaagtagga 420 150 tetgggggtt gtggaeteta gatgggaeag accaqeeetg aaggtaggga egtetaeega 480 151 ctacttctca gagcggaaag acgaataata ttggacgagg tgacggatgc gtccctaagt 540 152 gtattttagc tgttaataga gttcgaggac ttcacggctt agtaggtgtt gttgttgacg 600 153 att 155 <210> SEQ ID NO: 9 156 <211> LENGTH: 200 157 <212> TYPE: PRT 158 <213> ORGANISM: Homo sapiens 160 <400> SEQUENCE: 9 161 Met Leu Pro Ile Cys Pro Gly Gly Ala Ala Arg Cys Gln Val Thr Leu 162 10 164 Arg Asp Leu Phe Asp Arg Ala Val Val Leu Ser His Tyr Ile His Asn 20 25 167 Leu Ser Ser Glu Met Phe Ser Glu Phe Asp Lys Arg Tyr Thr His Gly 35 40 170 Arg Gly Phe Ile Thr Lys Ala Ile Asn Ser Cys His Thr Ser Ser Leu 50 55 173 Ala Thr Pro Glu Asp Lys Glu Gln Ala Gln Gln Met Asn Gln Lys Asp 70 75 176 Phe Leu Ser Leu Ile Val Ser Ile Leu Arg Ser Trp Asn Glu Pro Leu

RAW SEQUENCE LISTING DATE: 10/10/2001 PATENT APPLICATION: US/09/819,094 TIME: 10:12:44

Input Set : A:\UCSF-018-02US.txt

Output Set: N:\CRF3\10102001\1819094.raw

177					0.5					0.0					95	
177		77 ÷ ~	т	37- 3	85 mb~	a 1	110 T	7 ~~	C1-+	90	C1 n	C1.,	71-	Dro		7 l s
	-	HIS	Leu		Thr	GIU	Val	Arg	Gly	мес	GIII	GIU	Ald		GLU	Ата
180		_	_	100			~ 3		105	~ 1	~ 1	m1.	_	110	.	T
	He	Leu		Lys	Ala	Val	Glu		Glu	GLu	GIn	Thr		Arg	Leu	Leu
183			115					120		_	_		125			
185	Glu	_	Met	Glu	Leu	Ile	Val	Ser	Gln	Val	His		Glu	Thr	Lys	Glu
186		130					135					140				
188	Asn	Glu	Ile	Tyr	Pro	Val	\mathtt{Trp}	Ser	Gly	Leu	Pro	Ser	Leu	Gln	Met	Ala
189	145					150					155					160
191	Asp	Glu	Glu	Ser	Arg	Leu	Ser	Ala	Tyr	Tyr	Asn	Leu	Leu	His	Cys	Leu
192	-				165				-	170					175	
	Ara	Arα	Asp	Ser	His	Lvs	Tle	Asp	Asn	Tvr	Leu	Lvs	Leu	Leu	Lvs	Cvs
195		5		180		-1-			185	-1		-1-		190		1
	λ×α	Ile	T10		Acn	Acn	Nen	Cve	100							
	Arg	TIE		птэ	ASII	nsn	VPII	200								
198	-01	۸. ه.	195		1.0			200								
		<210> SEQ ID NO: 10														
		<211> LENGTH: 124														
203	<21	2> T	YPE:	PRT												
204	<21	3> O!	RGAN	ISM:	Homo	sa _j	piens	S					•			
206	<40	0> SI	EQUE	NCE:	10											
207	Met	Leu	Pro	Ile	Cys	Pro	Gly	Gly	Ala	Ala	Arg	Cys	Gln	Val	Thr	Leu
208	1				5		-	_		10		_			15	
		Asp	Len	Phe	Asp	Ara	Ala	Val	Val	Leu	Ser	His	Tvr	Ile	His	Asn
211	9	1106	Lou	20	_F	9			25				-1-	30		
	T 011	Con	Com		Mot	Dho	Com	C1	Phe	λαν	Tvro	λνα	Tree		uic	Clv
	Leu	ser		GIU	Met	PHE	SEI		FILE	АЗР	цуз	Arg	45	1111	1113	Gry
214	_	a 1	35	m 1 .	m1	.	.1.	40	3	a		77.5 -		a	O	T 0
	Arg	_	Pne	тте	Thr	ьуs		TTE	Asn	ser	ser		Thr	ser	ser	Leu
217		50		_			55					60			_	_
		Thr	Pro	Glu	Asp	_	Glu	Gln	Ala	Gln		Met	Asn	GIn	Lys	
220	65					70					75					80
222	Phe	Leu	Ser	Leu	Ile	Val	Ser	Ile	Leu	Arg	Ser	\mathtt{Trp}	Asn	Glu	Pro	Leu
223					85					90					95	
225	Tyr	His	Leu	Val	Thr	Glu	Val	Arg	Gly	Met	Gln	Glu	Ala	Pro	Glu	Ala
226	-			100				_	105					110		
	Tle	Len	Ser	Lvs	Ala	Va l	Glu	Ile	Glu	Glu	Gln	Thr				
229			115	-12		,		120								
	~21 <i>i</i>	<210> SEQ ID NO: 11														
		1> LI			1 U											
		2> T														
		3> 01				sa _l	oiens	3								
		0> SI														
	Met	Leu	Pro	Ile	Cys	Pro	Gly	Gly	Ala	Ala	Arg	Cys	Gln	Val		Leu
239	1				5					10					15	
241	Arg	Asp	Leu	Phe	Asp	Arg	Ala	Val	Val	Leu	Ser	His	Tyr	Ile	His	Asn
242	_	-		20	_	-			25					30		
	Leu	Ser	Ser	Glu	Met	Phe	Ser	Glu	Phe	Asp	Lys	Arq	Tyr	Thr	His	Gly
245			35					40		- 1	4		45	·		-
	Δνα	Glv		Tlo	Thr	T.v.c	Δla		Asn	Ser	Ser	His		Ser	Ser	Len
248	A+ 9		r 116	TT6	****	-13	55	110	11011	JC1	J C 1	60		~~-		
240		50					22					00				

RAW SEQUENCE LISTING DATE: 10/10/2001 PATENT APPLICATION: US/09/819.094 TIME: 10:12:44

Input Set : A:\UCSF-018-02US.txt

Output Set: N:\CRF3\10102001\1819094.raw

```
250 Ala Thr Pro Glu Asp Lys Glu Gln Ala Gln Gln Met Asn Gln Lys Asp
 251 65
                          70
 253 Phe Leu Ser Leu Ile Val Ser Ile Leu Arg Ser Trp Asn Glu Pro Leu
 256 Tyr His Leu Val Thr Glu Val Arg Gly Met Gln Glu Ala Pro Glu Ala
 257 . 100
                                     105
 259 Ile Leu Ser Lys Ala Val Glu Ile Glu Glu Gln Thr Lys Arg Leu Leu
            115
                                 120
 262 Glu Gly Met Glu Leu Ile Val Ser Gln Val His Pro
                             135
         130
 266 <210> SEQ ID NO: 12
 267 <211> LENGTH: 143
 268 <212> TYPE: PRT
 269 <213> ORGANISM: Homo sapiens
 271 <400> SEQUENCE: 12
 272 Met Leu Pro Ile Cys Pro Gly Gly Ala Ala Arg Cys Gln Val Thr Leu
 273 1
                       5
 275 Arg Asp Leu Phe Asp Arg Ala Val Leu Ser His Tyr Ile His Asn
                  20
                                      25
 278 Leu Ser Ser Glu Met Phe Ser Glu Phe Asp Lys Arg Tyr Thr His Gly
 279
             35
                                  40
                                                      45
 281 Arg Gly Phe Ile Thr Lys Ala Ile Asn Ser Ser His Thr Ser Ser Leu
         50
                              55
 284 Ala Thr Pro Glu Asp Lys Glu Gln Ala Gln Gln Met Asn Gln Lys Asp
                          70
                                              75
 287 Phe Leu Ser Leu Ile Val Ser Ile Leu Arg Ser Trp Asn Glu Pro Leu
                      85
                                          90
 290 Tyr His Leu Val Thr Glu Val Arg Gly Met Gln Glu Ala Pro Glu Ala
 291
               100
                                     105
 293 Ile Leu Ser Lys Ala Val Glu Ile Glu Glu Gln Thr Lys Arg Leu Leu
 294
            115
                                120
                                                     125
 296 Glu Gly Met Glu Leu Ile Val Ser Gln Val His Pro Arg Pro Pro
 297
        130
                             135
 300 <210> SEQ ID NO: 13
 301 <211> LENGTH: 579
 302 <212> TYPE: DNA
 303 <213> ORGANISM: Homo sapiens
 305 <400> SEQUENCE: 13
 306 atggtecaaa eegtteegtt atceaggett tttgaeeaeg etatgeteea ageeeatege 60
 307 gegeaceage tggeeattga cacetaceag gagtttgaag aaacetatat cecaaaggae 120
308 cagaagtatt cgttcctgca tgactcccag acctccttct ctttctcaga ctctattccg 180
 309 acacceteca acatggagga aacgcaacag aaatecaate tagagetget eegcatetee 240
310 ctgctgctca tcgagtcgtg gctggagccc gtgcggttcc tcaggagtat gttcgccaac 300
 311 aacctggtgt atgacacctc ggacagcgat gactatcacc tcctaaagga cctagaggaa 360
312 ggcatccaaa cgctgatggg gaggctggaa gacggcagcc gccggactgg gcagatcctc 420
313 aagcagacet acagcaagtt tgacacaaac tegcacaace atgacgcact geteaagaac 480
314 tacgggctgc tetactgctt caggaaggac atggacaagg tegagacatt cetgegcatg 540
315 gtgcagtgcc gctctgtgga gggcagctgt ggcttctag
                                                                       579
317 <210> SEQ ID NO: 14
```

VERIFICATION SUMMARY

DATE: 10/10/2001

PATENT APPLICATION: US/09/819,094

TIME: 10:12:45

Input Set : A:\UCSF-018-02US.txt

Output Set: N:\CRF3\10102001\I819094.raw